

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An aqueous polymer dispersion obtained by emulsion polymerization of ethylenically unsaturated monomers in an aqueous medium in the presence of at least one free radical polymerization initiators-initiator and stabilizersat least one stabilizer;

wherein:

the at least one stabilizer is employed before, during or after polymerization;

the at least one stabilizer comprises at least one amphiphilic polymers-polymer comprising one or more hydrophobic units (A)-A and one or more hydrophilic units (B)-B;
~~are used as a stabilizer before, during or after the polymerization,~~

the one or more hydrophobic units (A)-A ~~being~~are formed from a polyisobutene block, at least 50 mol% of ~~whose~~ polyisobutene macromolecules ~~have~~of the polyisobutene block having terminally arranged double bonds, based on a total number of polyisobutene macromolecules; and

the one or more hydrophilic units B are formed from at least one alkylene oxide selected from the group consisting of monoaminoethylene oxide, monothioethylene oxide, and diaminoethylene oxide.

Claim 2 (Currently Amended): The aqueous polymer dispersion according to claim 1, comprising from 0.1 to 70% by weight of the at least one amphiphilic polymer ~~comprising~~ ~~one or more hydrophobic units (A) and one or more hydrophilic units (B), the hydrophobic units (A) being formed from a polyisobutene block, at least 50 mol% of whose polyisobutene macromolecules have terminally arranged double bonds.~~

Claim 3 (Currently Amended): The aqueous polymer dispersion according to claim 1, wherein ~~the polyisobutene block is formed from polyisobutene macromolecules, of which at least 60, preferably 80,60 mol% of polyisobutene macromolecules of the polyisobutene block have terminally arranged double bonds~~, based on the total number of the polyisobutene macromolecules, comprise terminally arranged double bonds.

Claims 4 to 6 (Cancelled).

Claim 7 (Currently Amended): The aqueous polymer dispersion according to claim 1, wherein:

the polyisobutylene block is functionalized ~~with~~by introduction of polar groups, and the functionalized polyisobutene block is, ~~if appropriate, then~~ optionally further modified.

Claim 8 (Currently Amended): The aqueous polymer dispersion according to claim 7, wherein ~~the functionalization of the polyisobutene block is carried out~~ is functionalized by a at least one reaction that is selected from the following list~~group~~ consisting of:

- i) reaction with aromatic hydroxy compounds in the presence of an alkylation catalyst to give aromatic hydroxy compounds alkylated with polyisobutenes,
- ii) reaction of the polyisobutene block with a peroxy compound to give an epoxidized polyisobutene,
- iii) reaction of the polyisobutene block with an alkene which has a double bond substituted by electron-attracting groups (enophile), in an ene reaction,

- iv) reaction of the polyisobutene block with carbon monoxide and hydrogen in the presence of a hydroformylation catalyst to give a hydroformylated polyisobutene,
- v) reaction of the polyisobutene block with a phosphorus halide or a phosphorus oxychloride to give a polyisobutene functionalized with phosphono groups,
- vi) reaction of the polyisobutene block with a borane and subsequent oxidative cleavage to give a hydroxylated polyisobutene,
- vii) reaction of the polyisobutene block with an SO_3 source, preferably acetyl sulfate or oleum, to give a polyisobutene having terminal sulfo groups, and
- viii) reaction of the polyisobutene block with oxides of nitrogen and subsequent hydrogenation to give a polyisobutene having terminal amino groups.

Claim 9 (Currently Amended): The aqueous polymer dispersion according to claim 1, wherein the at least one amphiphilic polymers comprising one or more hydrophobic units (A) and one or more hydrophilic units (B) are is obtained by reaction of reacting hydrophobic units (A) A comprising a functionalized polyisobutene block with alkylene oxides or by a polymer-analogous reaction with one or more polyalkylene oxides.

Claim 10 (Currently Amended): The aqueous polymer dispersion according to claim 1, wherein the at least one amphiphilic polymer has an ABA structure.

Claim 11 (Currently Amended): The aqueous polymer dispersion according to claim 1, wherein the at least one amphiphilic polymer has an A_pB_q structure, where p and q, independently of one another, are from 1 to 8.

Claim 12 (Previously Presented): The aqueous polymer dispersion according to claim 1, comprising from 0.1 to 70% by weight of blends of amphiphilic polymers.

Claim 13 (Currently Amended): The aqueous polymer dispersion according to ~~claim 10~~, comprising from 0.5 to 20% by weight of ~~the~~ at least one amphiphilic polymer ~~having a structure of the type A-B-A.~~

Claim 14 (Currently Amended): The aqueous polymer dispersion according to ~~claim 11~~, comprising from 0.5 to 20% by weight of ~~the~~ at least one amphiphilic polymer ~~of the structure A_pB_q, where p and q, independently of one another, are from 1 to 8.~~

Claim 15 (Currently Amended): The aqueous polymer dispersion according to ~~claim 11~~, wherein:

~~amphiphilic polymers composed of the~~ at least one hydrophobic block A ~~consisting~~ consists of polyisobutene; and
~~the~~ at least one hydrophilic block B ~~consisting~~ consists of polyalkylene oxide or ~~blends of these amphiphilic polymers are used as a stabilizer, the stabilizers having A_pB_q structures, where p and q, independently of one another, are from 1 to 8, and at least one alkylene oxide selected from the group consisting of monoaminoethylene oxide, monothioethylene oxide, and diaminoethylene oxide;~~

A is a polyisobutene block having an average molar mass M_n of from 200 to 50,000; and

B is a polyalkylene oxide block having an average molar mass M_n of from 200 to 50,000.

Claim 16 (Currently Amended): The aqueous polymer dispersion according to claim 10, wherein:

~~—further comprising three block copolymers of the structure A-B-A used as a stabilizer,~~

A ~~being~~ is a polyisobutene block having an average molar mass M_n of from 200 to ~~50 000~~50,000; and

B ~~being~~ is a polyalkylene oxide block having an average molar mass M_n of from 200 to ~~50 000~~50,000.

Claim 17 (Currently Amended): The aqueous polymer dispersion according to claim 10, ~~further comprising three block copolymers of the structure A-B-A used as a stabilizer,~~ wherein:

A ~~being~~ is a polyisobutene block having an average molar mass M_n of from 200 to ~~20 000~~20,000; and

B ~~being~~ is a polyalkylene oxide block having an average molar mass M_n of from 500 to ~~30 000~~30,000.

Claim 18 (Currently Amended): The aqueous polymer dispersion according to claim 10, ~~further comprising three block copolymers of the structure A-B-A used as a stabilizer,~~ wherein:

A ~~being~~ is a polyisobutene block having an average molar mass M_n of from 450 to ~~5000~~5,000; and

B ~~being~~ is a polyalkylene oxide block having an average molar mass M_n of from 800 to ~~15 000~~15,000.

Claim 19 (Currently Amended): The aqueous polymer dispersion according to ~~claim~~
claim 10, wherein:

~~the aqueous polymer dispersion further comprising three block copolymers composed of polyisobutene functionalized with succinic anhydride groups (PIBSA) as hydrophobic block A and of polyethylene oxide (PEO) as hydrophilic block B, of the structure A-B-A, used as a stabilizer,~~

~~A being~~ is a polyisobutene block having an average molar mass M_n of from 450 to 5000-5,000; and

~~B being~~ is a polyalkylene oxide block having an average molar mass M_n of from 800 to 15 000-15,000; and

the polyisobutene block comprises polyisobutene functionalized with succinic anhydride groups (PIBSA).

Claim 20 (Currently Amended): A process for ~~the preparation of~~ preparing the aqueous polymer ~~dispersions~~ dispersion according to claim 1, ~~the process comprising:~~

~~the process comprising:~~ polymerizing ethylenically unsaturated monomers in ~~an~~ the aqueous medium in the presence of the at least one free radical polymerization initiators-initiator and the at least one stabilizer by an emulsion polymerization method,;

wherein:

the at least one amphiphilic polymers comprising one or more hydrophobic units (A) and one or more hydrophilic units (B) are used as a stabilizer is employed before, during or after the polymerization,;

~~the hydrophobic units (A) being formed from a polyisobutene block, at least 50 mol% of the hydrophobic units A are whose polyisobutene macromolecules have having terminally arranged double bonds.~~

Claim 21 (Currently Amended): The process according to claim 20, wherein:

~~the amphiphilic polymers polymer composed of at least one hydrophobic block A consisting of polyisobutene and at least one hydrophilic block B consisting of polyalkylene oxide or blends of these amphiphilic polymers are used as a stabilizer, the stabilizers having structures has an A_pB_q structure~~, where p and q, independently of one another, are from 1 to 8, and;

A ~~being is~~ a polyisobutene block having an average molar mass M_n of from 200 to 50 000-50,000; and

B ~~being is~~ a polyalkylene oxide block having an average molar mass M_n of from 200 to 50-00050,000.

Claim 22 (Currently Amended): The process according to claim 20, wherein:

~~three block copolymers of the structure the amphiphilic polymer has an A-B-A are used as a stabilizer, structure;~~

A ~~being is~~ a polyisobutene block having an average molar mass M_n of from 200 to 20 000-20,000; and

B ~~being is~~ a polyalkylene oxide block having an average molar mass M_n of from 500 to 30-00030,000.

Claim 23 (Currently Amended): The process according to claim 20, wherein:

~~the amphiphilic polymer has three block copolymers of the structure an A-B-A are used as a stabilizer, structure;~~

A ~~being is~~ a polyisobutene block having an average molar mass M_n of from 450 to 5000-5,000; and

B ~~being~~ is a polyalkylene oxide block having an average molar mass M_n of from 800 to ~~15 000~~15,000.

Claim 24 (Currently Amended): The process according to claim 20, wherein:
~~the amphiphilic polymer has an three-block copolymers composed of polyisobutene functionalized with succinic anhydride groups (PIBSA) as hydrophobic block A and of polyethylene oxide (PEO) as hydrophilic block B, of the structure A-B-A are used as a stabilizer, structure;~~

A ~~being~~ is a polyisobutene block having an average molar mass M_n of from 450 to ~~5000~~5,000; and

B ~~being~~ is a polyalkylene oxide block having an average molar mass M_n of from 800 to ~~15 000~~15,000; and
the polyisobutene block comprises polyisobutene functionalized with succinic anhydride groups (PIBSA).

Claim 25 (Currently Amended): An associative thickener for aqueous media, comprising ~~an~~the aqueous polymer dispersion according to claim 1.

Claim 26 (Currently Amended): A paper coating slip, comprising ~~an~~the aqueous polymer dispersion according to claim 1.

Claim 27 (Currently Amended): The paper coating slip according to claim 26, wherein:

~~the amphiphilic polymer has an further comprising amphiphilic polymers composed of at least one hydrophobic block A consisting of polyisobutene and at least one hydrophilic~~

~~block B consisting of polyalkylene oxide or blends of these amphiphilic polymers used as the sole stabilizer for the polymer dispersion, the stabilizers having at least one of the structures A_pB_q structure, where p and q, independently of one another, are from 1 to 8, and;~~

the at least one hydrophobic block A consists of polyisobutene;

the at least one hydrophilic block B consists of at least one alkylene oxide selected from the group consisting of monoaminoethylene oxide, monothioethylene oxide, and diaminoethylene oxide;

A is a polyisobutene block having an average molar mass M_n of from 200 to 50,000; and

B is a polyalkylene oxide block having an average molar mass M_n of from 200 to 50,000.

Claim 28 (New): The aqueous polymer dispersion according to claim 1, wherein at least 80 mol% of polyisobutene macromolecules of the polyisobutene block have terminally arranged double bonds, based on the total number of polyisobutene macromolecules

Claim 29 (New): An aqueous polymer dispersion obtained by emulsion polymerization of ethylenically unsaturated monomers in an aqueous medium in the presence of at least one free radical polymerization initiator and at least one stabilizer;

wherein:

the at least one stabilizer is employed before, during or after polymerization;

the at least one stabilizer comprises at least one amphiphilic polymer comprising one or more hydrophobic units A and one or more hydrophilic units B;

the one or more hydrophobic units A are formed from a polyisobutene block, at least 50 mol% of polyisobutene macromolecules of the polyisobutene block have terminally arranged double bonds; and

at least one amphiphilic polymer has an ABA structure.

Claim 30 (New): The aqueous polymer dispersion according to claim 29, comprising from 0.1 to 70% by weight of the at least one amphiphilic polymer.

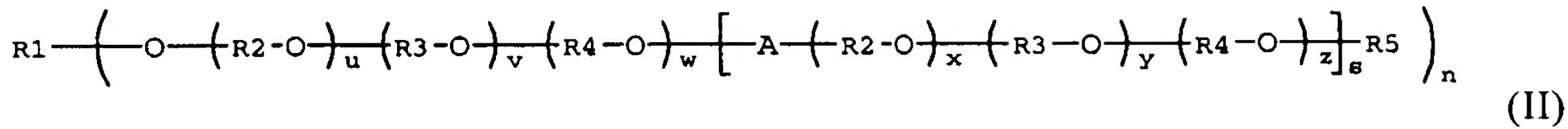
Claim 31 (New): The aqueous polymer dispersion according to claim 29, wherein at least 60 mol% of polyisobutene macromolecules of the polyisobutene block have terminally arranged double bonds, based on the total number of polyisobutene macromolecules.

Claim 32 (New): The aqueous polymer dispersion according to claim 29, wherein at least 80 mol% of polyisobutene macromolecules of the polyisobutene block have terminally arranged double bonds, based on the total number of polyisobutene macromolecules

Claim 33 (New): The aqueous polymer dispersion according to claim 29, wherein the one or more hydrophilic units B are formed from repeating ethylene oxide or ethylene oxide/propylene oxide units.

Claim 34 (New): The aqueous polymer dispersion according to claim 33, wherein the one or more hydrophilic units B comprise up to 50% by weight of propylene oxide units.

Claim 35 (New): The aqueous polymer dispersion according to claim 29, wherein the one or more hydrophilic units B are formed from the following formula



where, independently from one another,

R^1 is hydrogen, C_1-C_{24} -alkyl, $R^6-C(=O)-$, $R^6-NH-C(=O)-$ or a polyalcohol radical;

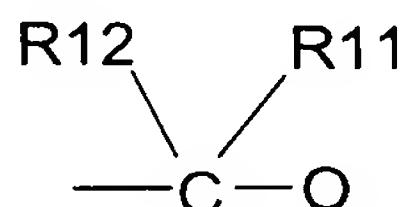
R^5 is hydrogen, C_1-C_{24} -alkyl, $R^6-C(=O)-$ or $R^6-NH-C(=O)-$;

R^2 to R^4 are $-(CH_2)_2-$, $-(CH_2)_3-$, $-(CH_2)_4-$, $-CH_2-CH(R^6)-$, $-CH_2-CHOR^7-CH_2-$;

R^6 is C_1-C_{24} -alkyl;

R^7 is hydrogen, C_1-C_{24} -alkyl, $R^6-C(=O)-$ or $R^6-NH-C(=O)-$;

$A:$ is $-C(=O)-O$, $-C(=O)-D-C(=O)-O$,
 $-CH_2-CH(-OH)-D-CH(-OH)-CH_2-O$,
 $-C(=O)-NH-D-NH-C(=O)-O$;



D is $-(CH_2)_t-$, arylene, substituted or unsubstituted;

R^{11} and R^{12} are hydrogen, C_1-C_{24} -alkyl, C_1-C_{24} -hydroxyalkyl, benzyl or phenyl;

n is 1 if R^1 is not a polyalcohol radical or

is from 1 to 500 if R^1 is a polyalcohol radical;

s is from 0 to 1,000;

t is from 1 to 12;

u is from 1 to 2,000;

v is from 0 to 2,000;

w is from 0 to 2,000;

x is from 0 to 2,000;

y is from 0 to 2,000; and

z is from 0 to 2,000.

Claim 36 (New): The aqueous polymer dispersion according to claim 29, wherein the one or more hydrophilic units B are formed from at least one alkylene oxide selected from the group consisting of monoaminoethylene oxide, monothioethylene oxide, and diaminoethylene oxide.

Claim 37 (New): The aqueous polymer dispersion according to claim 29, wherein: the polyisobutylene block is functionalized by introduction of polar groups; and the functionalized polyisobutene block is optionally further modified.

Claim 38 (New): The aqueous polymer dispersion according to claim 37, wherein the polyisobutene block is functionalized by at least one reaction selected from the group consisting of:

- i) reaction with aromatic hydroxy compounds in the presence of an alkylation catalyst to give aromatic hydroxy compounds alkylated with polyisobutenes,
- ii) reaction of the polyisobutene block with a peroxy compound to give an epoxidized polyisobutene,
- iii) reaction of the polyisobutene block with an alkene which has a double bond substituted by electron-attracting groups (enophile), in an ene reaction,
- iv) reaction of the polyisobutene block with carbon monoxide and hydrogen in the presence of a hydroformylation catalyst to give a hydroformylated polyisobutene,

- v) reaction of the polyisobutene block with a phosphorus halide or a phosphorus oxychloride to give a polyisobutene functionalized with phosphono groups,
- vi) reaction of the polyisobutene block with a borane and subsequent oxidative cleavage to give a hydroxylated polyisobutene,
- vii) reaction of the polyisobutene block with an SO_3 source, preferably acetyl sulfate or oleum, to give a polyisobutene having terminal sulfo groups, and
- viii) reaction of the polyisobutene block with oxides of nitrogen and subsequent hydrogenation to give a polyisobutene having terminal amino groups.

Claim 39 (New): The aqueous polymer dispersion according to claim 29, wherein the at least one amphiphilic polymer is obtained by reacting hydrophobic units A comprising a functionalized polyisobutene block with alkylene oxides or by a polymer-analogous reaction with one or more polyalkylene oxides.

Claim 40 (New): The aqueous polymer dispersion according to claim 29, comprising from 0.1 to 70% by weight of blends of amphiphilic polymers.

Claim 41 (New): The aqueous polymer dispersion according to claim 29, comprising from 0.5 to 20% by weight of the at least one amphiphilic polymer.

Claim 42 (New): The aqueous polymer dispersion according to claim 29, wherein:
A is a polyisobutene block having an average molar mass M_n of from 200 to 50,000;
and
B is a polyalkylene oxide block having an average molar mass M_n of from 200 to 50,000.

Claim 43 (New): The aqueous polymer dispersion according to claim 29, wherein:

A is a polyisobutene block having an average molar mass M_n of from 200 to 20,000;

and

B is a polyalkylene oxide block having an average molar mass M_n of from 500 to 30,000.

Claim 44 (New): The aqueous polymer dispersion according to claim 29, wherein:

A is a polyisobutene block having an average molar mass M_n of from 450 to 5,000;

and

B is a polyalkylene oxide block having an average molar mass M_n of from 800 to 15,000.

Claim 45 (New): The aqueous polymer dispersion according to claim 29, wherein:

A is a polyisobutene block having an average molar mass M_n of from 450 to 5,000;

B is a polyalkylene oxide block having an average molar mass M_n of from 800 to

15,000; and

the polyisobutene block comprises polyisobutene functionalized with succinic anhydride groups (PIBSA).

Claim 46 (New): A process for preparing the aqueous polymer dispersion according to claim 29, comprising:

polymerizing ethylenically unsaturated monomers in the aqueous medium in the presence of the at least one free radical polymerization initiator and the at least one stabilizer by an emulsion polymerization method;

wherein:

the at least one stabilizer is employed before, during or after the polymerization;
at least 50 mol% of the hydrophobic units A are polyisobutene macromolecules having terminally arranged double bonds.

Claim 47 (New): The process according to claim 46, wherein:

the amphiphilic polymer has an A-B-A structure;
A is a polyisobutene block having an average molar mass M_n of from 200 to 20,000;
and

B is a polyalkylene oxide block having an average molar mass M_n of from 500 to 30,000.

Claim 48 (New): The process according to claim 46, wherein:

the amphiphilic polymer has an A-B-A structure;
A is a polyisobutene block having an average molar mass M_n of from 450 to 5,000;
and

B is a polyalkylene oxide block having an average molar mass M_n of from 800 to 15,000.

Claim 49 (New): The process according to claim 46, wherein:

the amphiphilic polymer has an A-B-A structure;
A is a polyisobutene block having an average molar mass M_n of from 450 to 5,000;
B is a polyalkylene oxide block having an average molar mass M_n of from 800 to 15 000; and

the polyisobutene block comprises polyisobutene functionalized with succinic anhydride groups (PIBSA).

Claim 50 (New): An associative thickener for aqueous media, comprising the aqueous polymer dispersion according to claim 29.

Claim 51 (New): A paper coating slip, comprising the aqueous polymer dispersion according to claim 29.